

Psychological, Cognitive and Linguistic BERTology: An Idiomatic Multiword Expression Perspective

LREC 2022 Tutorial

Tutorial Outline

Part 0: Introduction

- Motivation and background
- Tutorial Structure and what to expect.

Part 1: Psychological, Cognitive and Linguistic BERTology

- Probing, what it tells us and what it might miss.
- What Language Models are obviously good, less good and bad at and what this says about their ability to simulate human-like thought.
- Language modelling Fast and Slow: ``Low-level" vs "high-level" cognitive and linguistic processes in Language Models from a Psychological perspective.
- The need for developing high level cognitive capabilities in language models.

Part 2: Linguistic and Cognitive aspects of MWEs

- MWEs in the Mind
- L2 Language Learners and Idioms
- Idioms: A linguistic perspective
- Characteristics of MWEs that make them both Interesting and Hard for NLP.
- The need for ``Deeper" Linguistic Information and Knowledge in MWE understanding.
- The Relation between what is needed for Understanding Idioms and what BERToids have access to.

Break (10 minutes)

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Part 3: Traditional methods of identifying, discovering and representing MWEs.

- MWE identification resources: annotated corpora
- MWE discovery and unsupervised compositionality prediction
- Downstream applications of MWE identification and discovery
- Easy and hard MWEs to identify and discover
- MWE identification models, a comparison: Traditional methods, CRFs and BERToids.

Break (10 minutes)

Part 4: The State-of-the-Art in Identification and Representation of MWEs

- Identification: Motivation, methods and effectiveness
- Representation: Motivation, methods and effectiveness
- SemEval 2022 Task 2 -- Findings
- Cognitive and Linguistic Considerations

Part 5: Conclusions and Avenues of Future Research

- BERToids, BERTology, the Linguistic Nuances of Idioms, and World Knowledge: A Quick Recap.
- Are Uncommon Linguistic Phenomenon Worth Studying?
- How and why these Fields need each other.
- Discussion